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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Nobuko OKADA et al.

Application No.: 09/977,339

Filed: October 16, 2001

Docket No.: 110891

For: INK-JET RECORDING APPARATUS AND MANUFACTURING  
METHOD FOR FUNCTIONAL LIQUID APPLIED SUBSTRATE

PRELIMINARY AMENDMENT

Director of the U.S. Patent and Trademark Office  
Washington, D. C. 20231

Sir:

Prior to initial examination, please amend the above-identified application as follows:

IN THE SPECIFICATION:

Page 2, lines 4-9, delete current paragraph and insert therefor:

In Japanese Patent Application Laid-Open No. H11-58704, however, compensation data must be produced for each nozzle, an operation which involves time and trouble. Also, because it is necessary to provide drive voltage control means separately for each nozzle, the circuit configuration must of necessity be made complex.

IN THE CLAIMS:

Please replace claims 5, 6, 9, 10 and 12 as follows:

5. (Amended) The ink jet recording apparatus according to claim 1, wherein positions on ink jet head on which said plurality of nozzles is arranged are divided into a plurality of areas, and nozzles belonging to each area are made to belong to a single group.

6. (Amended) The ink jet recording apparatus according to claim 1, wherein said ink jet head on which said plurality of nozzles is arranged comprises cavities provided for each of said nozzles, a reservoir communicating to said cavities and common to said nozzles, and a supply port for supplying said functional liquid to said reservoir; and

wherein said plurality of groups comprise at least a first group comprising nozzles of said plurality of nozzles positioned close to said supply port, and a second group comprising nozzles of said plurality of nozzles positioned far from said supply port.

9. (Amended) The method for manufacturing a functional liquid applied substrate according to claim 7,

wherein said ink jet head on which said plurality of nozzles is arranged comprises cavities provided for each of said nozzles, a reservoir communicating to said cavities and common to said nozzles, and a supply port for supplying said functional liquid to said reservoir; and

wherein said plurality of groups comprise at least a first group comprising nozzles of said plurality of nozzles positioned close to said supply port, and a second group comprising nozzles of said plurality of nozzles positioned far from said supply port.

10. (Amended) A method for manufacturing a device comprising a functional liquid applied substrate manufactured by the method according to claim 7.

12. (Amended) A device comprising a functional liquid applied substrate manufactured by the method according to claim 7.

#### REMARKS

Claims 1-12 are pending. By this Preliminary Amendment, claims 5, 6, 9, 10 and 12 are amended to remove multiple dependencies. The specification is amended to correct a typographical error. No new matter is added. Prompt and favorable examination on the merits is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten paragraph  
(37 C.F.R. §1.121(b)(1)(iii)) and claim (37 C.F.R. §1.121(c)(1)(ii)).

Respectfully submitted,



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JAO:EDM/gam

Attachment:  
Appendix

Date: January 15, 2002

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## APPENDIX

## Changes to Specification:

Page 2, lines 4-9:

In Japanese Patent Application Laid-Open No. H11-5807458704, however, compensation data must be produced for each nozzle, an operation which involves time and trouble. Also, because it is necessary to provide drive voltage control means separately for each nozzle, the circuit configuration must of necessity be made complex.

## Changes to Claims:

The following are marked-up versions of the amended claims:

5. (Amended) The ink jet recording apparatus according to ~~any one of~~ claims 1-~~to 4~~, wherein positions on ink jet head on which said plurality of nozzles is arranged are divided into a plurality of areas, and nozzles belonging to each area are made to belong to a single group.

6. (Amended) The ink jet recording apparatus according to ~~any one of~~ claims 1-~~to 5~~,

wherein said ink jet head on which said plurality of nozzles is arranged comprises cavities provided for each of said nozzles, a reservoir communicating to said cavities and common to said nozzles, and a supply port for supplying said functional liquid to said reservoir; and

wherein said plurality of groups comprise at least a first group comprising nozzles of said plurality of nozzles positioned close to said supply port, and a second group comprising nozzles of said plurality of nozzles positioned far from said supply port.

9. (Amended) The method for manufacturing a functional liquid applied substrate according to claim 7-~~or 8~~,

wherein said ink jet head on which said plurality of nozzles is arranged comprises cavities provided for each of said nozzles, a reservoir communicating to said cavities and common to said nozzles, and a supply port for supplying said functional liquid to said reservoir; and

wherein said plurality of groups comprise at least a first group comprising nozzles of said plurality of nozzles positioned close to said supply port, and a second group comprising nozzles of said plurality of nozzles positioned far from said supply port.

10. (Amended) A method for manufacturing a device comprising a functional liquid applied substrate manufactured by the method according to ~~any one of claims 7 to 9~~.

12. (Amended) A device comprising a functional liquid applied substrate manufactured by the method according to ~~any one of claims 7 to 9~~.